



Appendix F

Threatened and Endangered Species

R. K. Zufelt

This appendix discusses the federal and state threatened and endangered species, candidate species, and plant species of concern potentially found on the Hanford Site. Threatened and endangered species are listed by the federal government in the

Code of Federal Regulations (50 CFR 17); Washington Natural Heritage Program (1999); and Washington State Department of Fish and Wildlife (2000). A more extensive discussion of listed species can be found in PNNL-6415, Rev. 1.

Threatened or Endangered Species

The purposes of the *Endangered Species Act*, as amended, are to 1) provide a means to conserve critical ecosystems, 2) provide a program for the conservation of threatened and endangered species, and 3) ensure that appropriate steps are taken to achieve the purposes of the treaties and conventions established in the act. Threatened and endangered species of plants and animals on the Hanford Site are listed in Table F.1.

Identification of candidate species can assist environmental planning efforts by providing advance notice of potential listing as a threatened or endangered species, allowing resource managers to alleviate

threats and thereby possibly remove the need to list species as endangered or threatened. Even if a candidate species is subsequently listed, the early notice could result in fewer restrictions on human activities in the environment by prompting candidate conservation measures to alleviate threats to the species. Washington State candidate animal species on the Hanford Site are listed in Table F.2. Plant species not listed as threatened or endangered but considered “candidates” for listing are identified by Washington State as “species of concern.” Washington State plant species of concern found on the Hanford Site are listed in Table F.3.

Hanford Status

No plants or mammals on the federal list of endangered and threatened species (50 CFR 17) are known to occur on the Hanford Site. There are, however, one bird species and two species of fish on the federal list of threatened and endangered species (see Table F.1). In addition, eight species of plants and five species of birds have been listed as either threatened or endangered by Washington State. The National Marine Fisheries Service is responsible for the federal listing of anadromous fish (i.e., fish which require both saltwater and freshwater to complete a

life cycle). Upper-Columbia River steelhead and upper-Columbia River spring-run chinook salmon were listed as endangered evolutionary significant units by National Marine Fisheries Service in August 1997 and March 1999, respectively.

Several species of both plants and animals are under consideration for formal listing as candidate species by Washington State. There are 16 state-level candidate species of plants and animals (see Table F.2) and 46 plant species of concern (see Table F.3).



Table F.1. Federal- or Washington State-Listed Threatened (T) and Endangered (E) Species on the Hanford Site

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal</u>	<u>State</u>
Plants			
Columbia milkvetch	<i>Astragalus columbianus</i>	SC	T
Dwarf evening primrose	<i>Camissonia</i> (= <i>Oenothera</i>) <i>pygmaea</i>		T
Hoover's desert parsley	<i>Lomatium tuberosum</i>	SC	T
Loeflingia	<i>Loeflingia squarrosa</i> var. <i>squarrosa</i>		T
Persistent sepal yellowcress	<i>Rorippa columbiae</i>	SC	T
Umtanum desert buckwheat	<i>Eriogonum codium</i>	C	E
White Bluffs bladderpod	<i>Lesquerella tuplashensis</i>	C	E
White eatonella	<i>Eatonella nivea</i>		T
Fish			
Spring-run chinook	<i>Oncorhynchus tshawytscha</i>	E	C
Steelhead	<i>Oncorhynchus mykiss</i>	E	C
Birds			
American white pelican	<i>Pelecanus erythrorhychos</i>		E
Bald eagle ^(a)	<i>Haliaeetus leucocephalus</i>	T	T
Ferruginous hawk	<i>Buteo regalis</i>	SC	T
Sandhill crane	<i>Grus canadensis</i>		E
Western sage grouse	<i>Centrocercus urophasianus phaios</i>	SC	T

(a) Currently under review for change in status.

C = Candidate, 50 CFR 17.

SC = Species of concern.



Table F.2. Washington State Candidate Animal Species on the Hanford Site

<u>Common Name</u>	<u>Scientific Name</u>
Molluscs	
Giant Columbia River spire snail ^(a)	<i>Fluminicola (= Lithoglyphus) columbiana</i>
Giant Columbia River limpet	<i>Fisherola (= Lanx) nuttalli</i>
Fish	
Spring-run chinook ^(b)	<i>Oncorhynchus tshawytscha</i>
Steelhead ^(b)	<i>Oncorhynchus mykiss</i>
Insects	
Columbia River tiger beetle ^(c)	<i>Cicindela columbica</i>
Birds	
Burrowing owl ^(a)	<i>Athene cunicularia</i>
Common loon	<i>Gavia immer</i>
Golden eagle	<i>Aquila chrysaetos</i>
Loggerhead shrike ^(a)	<i>Lanius ludovicianus</i>
Merlin	<i>Falco columbarius</i>
Northern goshawk ^(a,d)	<i>Accipiter gentilis</i>
Sage sparrow	<i>Amphispiza belli</i>
Sage thrasher	<i>Oreoscoptes montanus</i>
Reptiles	
Striped whipsnake	<i>Masticophis taeniatus</i>
Mammals	
Merriam's shrew	<i>Sorex merriami</i>
Washington ground squirrel ^(d,e)	<i>Spermophilus washingtoni</i>

(a) Federal species of concern.

(b) Federal endangered.

(c) Probable, but not observed, on the Hanford Site.

(d) Reported, but seldom observed, on the Hanford Site.

(e) Federal candidate.



Table F.3. Washington State Plant Species of Concern on the Hanford Site

Common Name	Scientific Name	State Listing^(a)
Annual paintbrush	<i>Castilleja exilis</i>	R1
Awed halfchaff sedge	<i>Lipocarpa</i> (= <i>Hemicarpha</i>) <i>aristulata</i>	R1
Basalt milk-vetch	<i>Astragalus conjunctus</i> var. <i>rickardii</i>	R1
Bristly combseed	<i>Pectocarya setosa</i>	W
Brittle prickly pear	<i>Opuntia fragilis</i>	R1
Canadian St. John's wort	<i>Hypericum majus</i>	S
Chaffweed	<i>Centunculus minimus</i>	R1
Columbia River mugwort	<i>Artemisia lindleyana</i>	W
Coyote tobacco	<i>Nicotiana attenuata</i>	S
Crouching milkvetch	<i>Astragalus succumbens</i>	W
Desert dodder	<i>Cuscuta denticulata</i>	S
Desert evening-primrose	<i>Oenothera caespitosa</i>	S
False pimpernel	<i>Lindernia dubia anagallidea</i>	R2
Fuzzytongue penstemon	<i>Penstemon eriantherus whitedii</i>	R1
Geyer's milkvetch	<i>Astragalus geyeri</i>	S
Grand redstem	<i>Ammannia robusta</i>	R1
Gray cryptantha	<i>Cryptantha leucophaea</i>	S
Great Basin gilia	<i>Gilia leptomeria</i>	R1
Hedge hog cactus	<i>Pediocactus simpsonii</i> var. <i>robustior</i>	R1
Kittitas larkspur	<i>Delphinium multiplex</i>	W
Lowland toothcup	<i>Rotala ramosior</i>	R1
Miner's candle	<i>Cryptantha scoparia</i>	R1
Piper's daisy	<i>Erigeron piperianus</i>	S
Robinson's onion	<i>Allium robinsonii</i>	W
Rosy balsamroot	<i>Balsamorhiza rosea</i>	W
Rosy pussypaws	<i>Calyptidium roseum</i>	S
Scilla onion	<i>Allium scilloides</i>	W
Shining flatsedge	<i>Cyperus bipartitus (rivularis)</i>	S
Small-flowered evening-primrose	<i>Camissonia</i> (= <i>Oenothera</i>) <i>minor</i>	R1
Small-flowered nama	<i>Nama densum</i> var. <i>parviflorum</i>	R1
Smooth cliffbrake	<i>Pellaea glabella simplex</i>	W
Snake River cryptantha	<i>Cryptantha spiculifera</i> (= <i>C. interrupta</i>)	S
Southern mudwort	<i>Limosella acaulis</i>	W
Stalked-pod milkvetch	<i>Astragalus sclerocarpus</i>	W
Suksdorf's monkey flower	<i>Mimulus suksdorfii</i>	S
Winged combseed	<i>Pectocarya linearis</i>	R1

The following species have been reported on the Hanford Site, but the known collections are questionable in terms of location or identification, and have not been recently collected on the Hanford Site.

Beaked spike-rush	<i>Eleocharis rostellata</i>	S
Dense sedge	<i>Carex densa</i>	S
Few-flowered collinsia	<i>Collinsia sparsiflora</i> var. <i>bruciae</i>	S
Giant helleborine	<i>Epipactis gigantea</i>	S
Medic milkvetch	<i>Astragalus speirocarpus</i>	W
Orange balsam	<i>Impatiens aurella</i>	R2
Palouse milkvetch	<i>Astragalus arrectus</i>	S
Palouse thistle	<i>Cirsium brevifolium</i>	W
Porcupine sedge	<i>Carex hystericina</i>	S
Thompson's sandwort	<i>Arenaria franklinii thompsonii</i>	R2

(a) S = Sensitive (i.e., taxa vulnerable or declining) and could become endangered or threatened without active management or removal of threats.

R1 = Taxa for which there are insufficient data to support listing as threatened, endangered, or sensitive (formerly monitor group 1).

R2 = Taxa with unresolved taxonomic questions (formerly monitor group 2).

W = Taxa that are more abundant and/or less threatened than previously assumed (formerly monitor group 3).



References

50 CFR 17. U.S. Fish and Wildlife Service, Department of the Interior. "Endangered and Threatened Wildlife and Plants." *Code of Federal Regulations*.

Endangered Species Act. 1973. Public Laws 93-205 through 100-707.

National Marine Fisheries Service. 1999. *ESA Status Pages*. Available URL: <http://www.nwr.noaa.gov/1salmon/salmesa/specprof.htm>

PNNL-6415, Rev. 1. 2000. *Hanford Site National Environmental Policy Act (NEPA) Characterization*. D. A. Neitzel (ed.), Pacific Northwest National Laboratory, Richland, Washington.

Washington Natural Heritage Program. 1999. *Rare Plant Species County List*. Washington State Department of Natural Resources, Olympia, Washington. Available URL: <http://www.wa.gov/dnr/htdocs/fr/nhp/plantco.html>

Washington State Department of Fish and Wildlife. 2000. *Priority Habitats and Species List*. Olympia, Washington. Available URL: <http://www.wa.gov/wdfw/hab/phspage.htm>